

In the Claims:

Please cancel claims 6-8, 21-23 and 31-33 and amend claims 1, 3, 9, 14, 17, 24, 29 and 34 as follows:

1. (Currently Amended) A method for removing a residue from a substrate surface, comprising:

mixing an aqueous solution comprising sulfuric acid and hydrofluoric acid with a hydrogen peroxide solution to produce a cleaning solution, wherein the cleaning solution comprises:

a hydrogen peroxide concentration in a range from about 1% to about 15% by weight;

a sulfuric acid concentration in a range from about 1% to about 10% by weight; and

a hydrogen fluoride concentration in a range from about 10 ppm to about 1,000 ppm;

applying an aliquot of the cleaning solution to a substrate surface for a period of time; and

rinsing the aliquot from the substrate surface with water to form a wash solution.

2. (Original) The method of claim 1, wherein the wash solution remains isolated from the cleaning solution.

3. (Currently Amended) The method of claim 1, wherein the cleaning solution further comprises a surfactant selected from the group consisting of glycol ethers, carboxylic acids, amines, sulfonamides, and fluoroalkylsulfonamides.

4. (Original) The method of claim 3, wherein the surfactant has a surfactant concentration in a range from about 1 ppm to about 100 ppm.

5. (Original) The method of claim 1, wherein the residue is selected from the group consisting of resist, polymeric, silicon, silicon oxide, aluminum, aluminum oxide and particulates of surface matter or substrate matter.

6-8. (Cancelled)

9. (Currently Amended) The method of claim 8 1, wherein the cleaning solution has a temperature in a range from about 15°C to about 80°C.

10. (Original) The method of claim 9, wherein the period of time is less than 2 minutes.

11. (Original) The method of claim 1, wherein the substrate surface comprises a material selected from the group consisting of aluminum, copper, tungsten, titanium, tantalum, titanium nitride, tantalum nitride, tungsten nitride and combinations thereof.

12. (Original) The method of claim 11, wherein the residue comprises a resist and the substrate surface comprises aluminum.

13. (Original) The method of claim 1, wherein the cleaning process includes sonication.

14. (Currently Amended) A method for cleaning a residue from a substrate surface, comprising:

exposing the substrate surface to an aliquot of a cleaning solution comprising sulfuric acid, hydrogen peroxide and hydrofluoric acid, wherein the cleaning solution comprises:

a hydrogen peroxide concentration in a range from about 1% to about 15% by weight;

a sulfuric acid concentration in a range from about 1% to about 10% by weight; and

a hydrogen fluoride concentration in a range from about 10 ppm to about 1,000 ppm;

rinsing the substrate surface with water to remove a residue and the aliquot of the cleaning solution;

forming a wash solution comprising the water, the residue and the aliquot of the cleaning solution; and

discarding of the wash solution.

15. (Original) The method of claim 14, wherein the cleaning solution is formed by combining a hydrogen peroxide solution and an aqueous solution.

16. (Original) The method of claim 15, wherein the aqueous solution comprise sulfuric acid and hydrofluoric acid.

17. (Currently Amended) The method of claim 14, wherein the cleaning solution ~~includes~~ further comprises a surfactant.

18. (Original) The method of claim 17, wherein the surfactant is selected from the group consisting of glycol ethers, carboxylic acids, amines, sulfonamides, and fluoroalkylsulfonamides.

19. (Original) The method of claim 18, wherein the surfactant has a surfactant concentration in a range from about 1 ppm to about 100 ppm.

20. (Original) The method of claim 14, wherein the residue is selected from the group consisting of resist, polymeric, silicon, silicon oxide, aluminum, aluminum oxide, particulates of surface matter or substrate matter.

21-23. (Cancelled)

24. (Currently Amended) The method of claim ~~23~~ 14, wherein the cleaning solution has a temperature in a range from about 15°C to about 80°C.

25. (Original) The method of claim 24, wherein a single pass of the substrate surface last less than 2 minutes.

26. (Original) The method of claim 14, wherein the substrate surface comprises a material selected from the group consisting of aluminum, copper, tungsten, titanium, tantalum, titanium nitride, tantalum nitride, tungsten nitride and combinations thereof.

27. (Original) The method of claim 26, wherein the residue comprises a resist and the substrate surface comprises aluminum.

28. (Original) The method of claim 14, wherein the cleaning process includes sonication.

29. (Currently Amended) A method of mixing and delivering a cleaning solution to remove a residue from a substrate surface, comprising:

providing an aqueous solution comprising sulfuric acid and hydrofluoric acid;

combining the aqueous solution and a hydrogen peroxide solution to form the cleaning solution, wherein the cleaning solution comprises:

a hydrogen peroxide concentration in a range from about 1% to about 15% by weight;

a sulfuric acid concentration in a range from about 1% to about 10% by weight; and

a hydrogen fluoride concentration in a range from about 10 ppm to about 1,000 ppm;

delivering the cleaning solution to a substrate surface;

removing at least a portion of a residue from the substrate surface; and

rinsing the substrate surface to remove the cleaning solution.

30. (Original) The method of claim 29, wherein the residue is selected from the group consisting of resist, polymeric, silicon, silicon oxide, aluminum, aluminum oxide, particulates of surface matter or substrate matter.

31-33. (Cancelled)

34. (Currently Amended) The method of claim ~~33~~ 30, wherein the cleaning solution has a temperature in a range from about 15°C to about 80°C.

35. (Original) The method of claim 34, wherein the substrate surface comprises a material selected from the group consisting of aluminum, copper, tungsten, titanium, tantalum, titanium nitride, tantalum nitride, tungsten nitride and combinations thereof.

36. (Original) The method of claim 35, wherein a sonication process is used in the cleaning solution.

37. (Original) The method of claim 36, wherein a single pass of the substrate surface last less than 2 minutes.